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Acrodictys, Corynespora, Karstenula, Oncopodium, and *Sporocadus:* new genera for Turkey

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Abstract—Five microfungal genera are recorded for the first time in Turkey. Brief morphological descriptions based on collections from Kırşehir province are provided for *Sporocadus pezizoides* (*Phlogicylindriaceae*), *Corynespora cambrensis* (*Corynesporascaceae*), *Karstenula rhodostoma* (*Montagnulaceae*), *Acrodictys elliptica* (*Pezizomycotina*), and *Oncopodium elaeagni* (*Pezizomycotina*).

Key words—anamorphic fungi, Anatolian Peninsula, *Ascomycota*, biodiversity

Introduction

Most studies on micromycetes in Turkey have focused on powdery mildews (*Erysiphales*) and rusts (*Pucciniales*). Other microfungi, especially the asexual states of saprobic ascomycetes that develop on forest trees and bushes, are insufficiently studied. However, in the last fifteen years the research on these fungi has increased (Akgul et al. 2015; Hüseyin 2004; Hüseyinov & Selçuk 1999, 2001; Hüseyinov 2000; Hüseyin & Selçuk 2001, 2002a,b, 2014; Selçuk et al. 2003, 2009, 2012a,b, 2014; Mel'nik et al. 2004; Selçuk & Ekici 2014; Selçuk & Hüseyin 2014; Hüseyin et al. 2005, 2014; Vasighzadeh et al. 2014).

Kırşehir province (38°50′–39°50′N 33°30′–34°50′E) is located in the middle of Anatolian Peninsula. This area lies within the Irano-Turanian phytogeographic region. According to the data obtained from the Kırşehir meteorological station, annual precipitation is 340–400 mm and the annual average temperature is 11°C.

This study contributes to the list of mycobiota of Turkey by adding five new genera.

Materials & methods

The specimens were collected during periodical mycological excursions in Boztepe district, Kırşehir Province, between 2012 and 2014. Microscopic studies were carried out on slides, with the samples prepared in distilled water. Morphological features were examined using an Olympus BX 53 research microscope (Japan) and Axio Imager 2 microscope equipped with Nomarski differential interference contrast optics. Hyphomycetous genera were identified via the key by Seifert et al. (2011). Species were identified by consulting handbooks and other publications (Ellis 1960, Sutton 1980, Dennis 1981, Morelet 1985, Ellis & Ellis 1987, Manoharachary et al. 2006, Magyar & Révay 2009). The host plants were identified using "Flora of Turkey and East Aegean Islands" (Davis 1965–85). Taxonomic names and citations follow Kirk et al. (2008) and Kirk (2015). All specimens are deposited in the Mycological Collection, Department of Biology, Arts and Sciences Faculty, Ahi Evran University, Kırşehir, Turkey (AEUT).

Taxonomy

Sporocadus pezizoides (Ellis & Everh.) M. Morelet, Ann. Soc. Sci. Nat. Archéol. Toulon Var 37(4): 234 (1985)

Conidiomata dark brown, sporodochial to disciform, 300–400 µm wide, 80–100 µm deep. Conidiophores hyaline, simple, cylindrical, 17.5–25 × 1.5–3 µm. Conidia brown, dark brown, straight or curved, clavate to fusiform with rounded ends, 25–30 × 7–8(–10) µm, 3-septate, septa prominent and very dark brown.

Specimens examined: **TURKEY**, **Kırşehir Province,** Boztepe district, around Kervansaray mountain, 39°13′10″N 34°13′55″E, 1300 m a.s.l., on dead wood of Salix alba L., 20.IV.2013, Kadriye Ekici 203 (AEUT); 30.III.2014, Kadriye Ekici 203a (AEUT).

Comments: The Turkish specimens of *Sporocadus pezizoides* have more slender conidiophores and narrower conidia than those described by Morelet (1985; conidiophores 2.5–3 µm wide, conidia 8.5–10.5 µm wide).

Corynespora cambrensis M.B. Ellis, Mycol. Pap. 76: 28 (1960)

Colonies on the natural substratum effuse, hairy, dark blackish brown. Mycelium superficial and immersed. Hyphae branched, 4–5 µm diam. Conidiophores simple, septate, dark brown, (45–)50–55(–65) × 5–7 µm. Conidia dark brown, smooth, (5–)8–12-pseudoseptate, cylindric, (23–)25–57 (–75) × (7.5–)8–10 µm.

Specimens examined: **TURKEY**, **Kırşehir Province,** Boztepe district, around Kervansaray mountain, 39°12′50″ N 34°13′01″ E, 1440 m a.s.l., on dead wood of *Salix cinerea* L. trunk, 27.IV.2013, Kadriye Ekici 207 (AEUT).

Comments: The Turkish specimen of *Corynespora cambrensis* has wider conidia with more numerous pseudosepta than described for the type specimen (Ellis 1960; 5–10 µm wide, with 2–8 pseudosepta).

Karstenula rhodostoma (Alb. & Schwein.) Speg., Dec. Mycol. Ital. 7–12: no. 94 (1879)

Pseudothecia gregarious beneath the bark, blackish or black, globose, globose-depressed, 450–550 µm diam. Hymenium paraphysate. Asci 8-spored, cylindrical, apically rounded, (115–)130–135(–160) × 12.5–18 µm, with thick and short stalk. Ascospores dark brown, guttulate, uniseriate, 3-septate, constricted at the septa, cylindrical, fusiform, rounded at both ends, 22.5–25 × 8–9.5 µm.

Specimen examined: **TURKEY**, **Kirşehir Province,** Boztepe district, around Kervansaray mountain, 39°13′30″ N 34°14′10″ E, 1320 m a.s.l., on dead branches of *Rhamnus petiolaris* Boiss. & Balansa, 02.XII.2012, Kadriye Ekici 191 (AEUT).

Comments: The Turkish specimen of *Karstenula rhodostoma* has wider asci and ascospores than those described by Dennis (1981; asci 12 µm wide, ascospores 7–9 µm wide).

Acrodictys elliptica Manohar., N.K. Rao, D.K. Agarwal & Kunwar, Indian Phytopath. 59: 91 (2006)

Colonies on the natural substratum effuse, hairy, brownish black, black, 5–10 × 1–2 mm. Mycelium mostly immersed. Hyphae smooth, brown, 3–3.5 µm diam. Conidiophores simple, septate, brown to black, erect, usually straight or slightly flexuous, 30–70 × 4–8 µm. Conidia dark brown, smooth, with 3–4 transverse and 1–2 longitudinal septa, ellipsoidal, ovoid, slightly constricted at the septa, (16–)17.5–22.5(–25) × (8–)9–12.5 µm.

Specimen examined: **TURKEY**, **Kirşehir Province,** Boztepe district, around Kervansaray mountain, 39°12′05″ N 34°13′08″ E, 1380 m a.s. l., on dead wood of *Cotoneaster nummularius* Fisch. & C.A. Mey., 04.XI.2012, Kadriye Ekici 62 (AEUT).

Comments: The Turkish specimen of *Acrodictys elliptica* has conidia with more transverse septa and fewer longitudinal septa but otherwise morphologically close to the type description (Manoharachary et al. 2006; 2–3 transverse and 2–3 longitudinal septa).

Oncopodium elaeagni D. Magyar, Nova Hedwigia 88: 477 (2009)

Colonies on the natural substratum brown. Mycelium immersed. Hyphae septate, smooth, brown, 4–5 µm diam. Conidiomata sporodochial, black. Conidiophores caespitose, septate, hyaline, 15–40 × 2.5–4.5 µm. Conidia fusiform, limoniform, brown, smooth, with 6–7 transverse and 3–4 longitudinal septa, 25–31 × 12–13(–14) µm, with 2 lateral and 1 central horn-like cells.

Specimen examined: **TURKEY**, **Kirşehir Province,** Boztepe district, around Kervansaray mountain, 39°13′10″N 34°13′40″ E, 1320 m a.s.l., on dead bark of *Elaeagnus angustifolia* L., 27.VII.2013, Kadriye Ekici 134 (AEUT).

Comments: The Turkish specimen of *Oncopodium elaeagni* has conidia that do not differ significantly in size from that cited by Magyar & Révay (2009: 24–30 × 9–18 µm).

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